REMARKS

The claims have been amended to more clearly define the invention as disclosed in the written description. In particular, claim 1 has been amended to tie the various steps therein to a particular apparatus. Claims 1 and 12 have further been amended to correct typographical errors.

Applicants believe that the above changes answer the Examiner's objections to claims 1 and 12, and respectfully request withdrawal thereof.

Applicants further believe that the above changes answer the Examiner's 35 U.S.C. 101 rejection of claims 1-5 and 8-11, and respectfully request withdrawal thereof.

The Examiner has rejected claims 1-5, 8 and 10-12 under 35 U.S.C. 103(a) as being unpatentable U.S. Patent 5,436,673 to Bachmann et al. in view of U.S. patent 4,731,662 to Udagawa et al. In addition, the Examiner has rejected claim 9 under 35 U.S.C. 103(a) as being unpatentable over Bachmann et al. in view of Udagawa et al., and further in view of U.S. Patent 5,742,296 to Yamada et al.

The Bachmann et al. patent discloses video signal color correction based on color hue.

The Udagawa et al. patent discloses an image processing method for processing an image signal differently depending on the range of an image characteristic thereof relative to the range within which an output device can reproduce the image characteristic.

The Examiner has indicated that while Bachmann et al. teaches "receiving input picture signals" and "determining input luminance, saturation and hue parameter values of said input picture signals", Bachmann et al. does not teach "obtaining the output saturation parameter value by increasing the input saturation parameter value up to a maximum level" and "determining said maximum level using the input hue value and the output luminance parameter value such that clipping of a color driving value does not take place". The Examiner then states that Udagawa et al. teaches these limitations and notes col. 4, lines 22-45.

Applicants submit that the Examiner is mistaken. In particular, the noted section of Udagawa et al. states:

> "At step S11, a saturation histogram of an input color signal is formed by forming a distribution of pixels constituting an image frame for each hue signal H; in other words, the saturation distribution is checked with respect to each of a plurality of predetermined hues. Next, at step S12 the maximum saturation C(H)max and the minimum saturation C(H)min are detected for each hue signal H. At step S13, the difference between C(H)max and C(H)min and the maximum reproducing saturation C(H)L measured beforehand of the color printer for each hue signal H, are compared with each other. If C(H)max-C(H)min>C(H)L at step S13, then step S14 follows to perform a saturation compression process and obtain an output saturation C'(H) in accordance with the following formula.
>
> $$\frac{C(H)_L \cdot C(H)}{C(H)max - C(H)min} + C(H)min \rightarrow C'(H)$$
>
> "As above, the saturation compression process as shown in FIG. 6A is carried out. Thus, it is possible to conduct saturation compression without destroying chromaticity continuity."

Applicants first would like to point out that there is no mention in Udagawa et al. of the output luminance parameter value, let alone the claim limitation "determining said maximum level using the input hue value and the output luminance parameter value in a saturation bound evaluation block such that clipping of a color driving value does not take place". Further, while Udagawa et al. discloses determining the output saturation (C'(H)), there is no disclosure or suggestion of increasing the input saturation up to a maximum level. Rather, Udagawa et al. merely detects the input maximum and minimum saturation for each hue signal.

Claim 3 includes the limitation "adapting the power based on histogram data derived from one or more of the input parameter values".

The Examiner has indicated:

> "Udagawa, working in the same field of endeavor, teaches a method comprising the step of adapting the power (saturation compression; `662, col.4, ln. 23-45) based on histogram data derived from the input parameter values ('662, col. 4, ln. 5) ('662; fig. 5; col.4, ln. 23-45) for the benefit of providing a method that is able to handle the condition where the density range of color saturation values of an input image signal is broader than the density range of a target output device so that the compression compensation is controlled in a manner to avoid the loss of picture detail because the histogram equalization allows the color saturation to be increased more for picture areas showing low saturation density levels than for picture areas showing high saturation density levels while preventing the overall corrected signal from exceeding the saturation limit or clipping level of the output device."

Applicants submit that while Udagawa et al. uses histogram processing to determine the output saturation, there is no

disclosure or suggestion of raising the input saturation by a power, and that the raising power is determined by "histogram data derived from one or more of the input parameter values."

The Yamada et al. patent discloses an image processing method and apparatus therefor.

Claim 9 includes the limitation "the output saturation parameter value is substantially determined by the equation:

$$S' = S_{max}(S/S_{max})^{\gamma_h} \quad ,$$

where S is the saturation parameter value, S_{max} is the maximum saturation value, and γ_h is the power".

The Examiner has indicated:

> "Yamada, working in the same field of endeavor, however, teaches a method for the benefit of preventing over saturation of the S values in the corrected image, wherein a saturation-related output parameter value S'(y_o) that is substantially determined by the equation: S'= S_{max}*(s/S_{max})^{Yh} {Y_o=Y_1(1-(1- Y_P\Y_t)**Y_C Y_i} ('296; col. 6, In. 63-67, col. 7, ln. 1-2) where all the gamma values (saturations) are normalized to the value of 1 so that the form of this equation becomes the form of the instant application. In addition, y_t corresponds to S, y_P corresponds to S_{max} and y_j is approximately equal to S_{max} ('296; col. 6, ln. 25-45)."

However, Applicants submit that Yamada et al. does not supply that which is missing from Bachmann et al., i.e., "obtaining the output saturation parameter value by increasing the input saturation parameter value up to a maximum level" and "determining said maximum level using the input hue value and the output

luminance parameter value such that clipping of a color driving value does not take place".

In view of the above, Applicants believe that the subject invention, as claimed, is neither anticipated nor rendered obvious by the prior art, either individually or collectively, and as such, is patentable thereover.

Applicants believe that this application, containing claims 1-12, is now in condition for allowance and such action is respectfully requested.

Respectfully submitted,

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